Relationship of the present and previous claims

Present Claim	Previous Claim	Basis of New Claim
1	1	
2	2	
3	--	claim 1
4	--	claim 1
5	3	
6	--	page 20, lines 31-33
7	4	
8	5	
9	6	
10	4	
11	5	
12	6	
13	7	
14	--	page 37
15	--	page 109
16	8	
17	--	page 116
18	7	
19	--	page 37
20	--	page 110
21	8	
22	9	
23	9	
24	15	
25	--	page 53
26	--	page 52
27	--	page 52-53
28	21	

29	22	
30	--	
31	--	page 19
32	23	
33	23	
34	23	
35	23	
36	14	
37	--	page 65
38	16	
39	24	
40	--	page 77
41	--	page 77
42	17	
43	25	
44	--	page 86

On the Examiner's rejections and objections, the following comments are presented.

Re: Objection to the set of claims under Section 36 of the *Patent Act*

As indicated above, basically all the previous claims have been maintained. Previous claims 13, 18, 19, and 20 have been deleted.

Those claims that were classified by the Examiner to Group B relate to a ligand of the G protein coupled receptor.

The Examiner classified previous claim 15 to Group A. This claim is directed to a method for determining whether or not a test compound is a ligand to the G protein coupled receptor and is now claimed in claims 24-27. Novel compounds that were determined to be a ligand by the method of previous claim 15 (new claims 24-27) are those peptide compounds of previous claims 21-23 and 26-29 (now claimed in claims 28-35). These matters are so closely related to the G protein coupled receptor of previous claims 1 and 2 that they cannot be considered to belong to another

invention. Therefore, new claims 24-37 should be allowed together with present claims 1-23.

Since previous claims 18 and 19 have been deleted, this issue is now irrelevant as far as Group C is concerned.

Thus, the Examiner is requested to allow all the present claims in this application.

Re: Rejection of claims 1-5, 7-10, 15, and 20 for lack of novelty

Apparently, the Examiner rejected these claims merely because previous claims 1 and 2 contained expression "substantially the same".

Claims 1 and 2 have been amended so that only one or two amino acids in the amino acid sequence as shown in SEQ ID NO: 1 or 2 may be deleted, added or substituted. Because of these amendments, it is believed that this rejection has been overcome.

Re: Rejection of claims 4 and 5 for lack of novelty

GeneBank Accession No AC005379 merely describes a base sequence having 45617 bases. This reference describes neither any specific amino acid sequence as set forth in present claim 1 or 2 of this application, nor specific base sequences encoding these amino acid sequences. Hence, withdrawal of this rejection is requested.

Re: Rejection of claim 7 and 8 as being obvious

Because claims 1 and 2 were amended and hence claims 7 and 8 (present claims 13-21) that depend on present claims 1 and 2 would no longer be obvious in view of the cited reference. Withdrawal of this rejection is requested.

Re: Objection to various claims on grounds unrelated to prior art

By the above-mentioned amendments, generally all the art-unrelated objections have been dealt with. On a few matters, the following comments are presented.

The "partial peptide" is now defined to have at least 20 amino acids in new claim 5 which would be free of objection.

The Examiner objected to previous claim 4, particularly to the inclusion of "having". This

objection is unfounded. Obviously, "having" would mean "consists of".

The Examiner objected to claims 10, 11 and 12 as being broader in scope than the teaching of the description and for being indefinite.

It is true that there is no specific working example in which the antibody claimed in these claims was actually produced. However, there are statements in the description as to how the antibody is produced using the protein described in the specification. As of the time at which this application was filed (1999), methods for producing both monoclonal antibodies and polyclonal antibodies were well known in the art. The only significant or important matter in this regard is to provide a proper protein that is used as an immunogen. The protein was produced in the working examples. Therefore, a person skilled in the art would have been able to produce the antibody following the instructions contained in the present specification, particularly on pages 45-49. Withdrawal of this objection is requested.

In light of the above-mentioned amendments and comments, reconsideration and early allowance of this application are respectfully requested.

If the fee payment indicated in this letter is insufficient, or if a fee payment authorization is missing, CIPO is hereby authorized to withdraw all required additional or missing fees from our deposit account number 6098. With this authorization it is believed that this application is in good standing. If however, this application is abandoned for one or more reasons, then by this letter we request complete reinstatement of this application. All fees required to effect complete reinstatement should be withdrawn from our deposit account number 6098. If reinstatement(s) is required, please advise us when this has been completed.

Yours very truly,

FETHERSTONHAUGH & CO.

Ottawa, Canada

Encl.

Tokuo Hirama

January 18, 2007

54) (SEQ ID NO: 13), PEPTIDE (47-54) (SEQ ID NO: 14) and PEPTIDE (48-54) (SEQ ID NO: 21) were synthesized by the following procedure.

(1) Preparation of PEPTIDE (40-54)

Commercially available p-methyl BHA resin (0.77 mmole/g resin) was charged in a reaction tank of peptide synthesizer ABI 430A. Thereafter, Boc-Phe, Boc-Arg(Tos), Boc-Leu, Boc-Gly, Boc-Phe, Boc-Ser(Bzl), Boc-Asn, Boc-Trp(CHO), Boc-Asn, Boc-Tyr(Br-Z), Boc-Asn, Boc-Pro, Boc-Leu, Boc-Asp(OcHex) and Boc-Lys(Cl-Z) were introduced into the resin in this order according to the Boc-strategy (NMP-HOBt) peptide synthesis to give the desired protected peptide resin. The resin, 0.12 g, was stirred at 0°C for 60 minutes in 10 ml of anhydrous hydrogen fluoride containing 1 ml of p-cresol and 1.2 ml of 1,4-butanediol. Thereafter the hydrogen fluoride was distilled off in vacuum. Diethyl ether was added to the residue and the precipitate was filtrated. 50% acetic acid aqueous solution was added to the precipitate for extraction and insoluble matters were removed. After the extract was sufficiently concentrated, the concentrate was applied to Sephadex (trade mark) G-25 column (2.0 x 80 cm) filled with 50% acetic acid aqueous solution followed by development with the same solvent. The main fractions were collected and lyophilized to give 40 mg of white powders. A half volume of the powders was applied to reverse phase chromatography column (2.6 x 60 cm) packed with LiChroprep (trade mark) RP-18 followed by washing with 200 ml of water containing 0.1% TFA. Then linear density gradient elution was performed with 300 ml of 0.1% TFA and 300 ml of 0.1% TFA-containing 33% acetonitrile. The main fractions were collected and lyophilized to give 4.1 mg of the desired peptide. Mass spectrum $(M+H)^+$ 1869.9 (calcd. 1969.9)